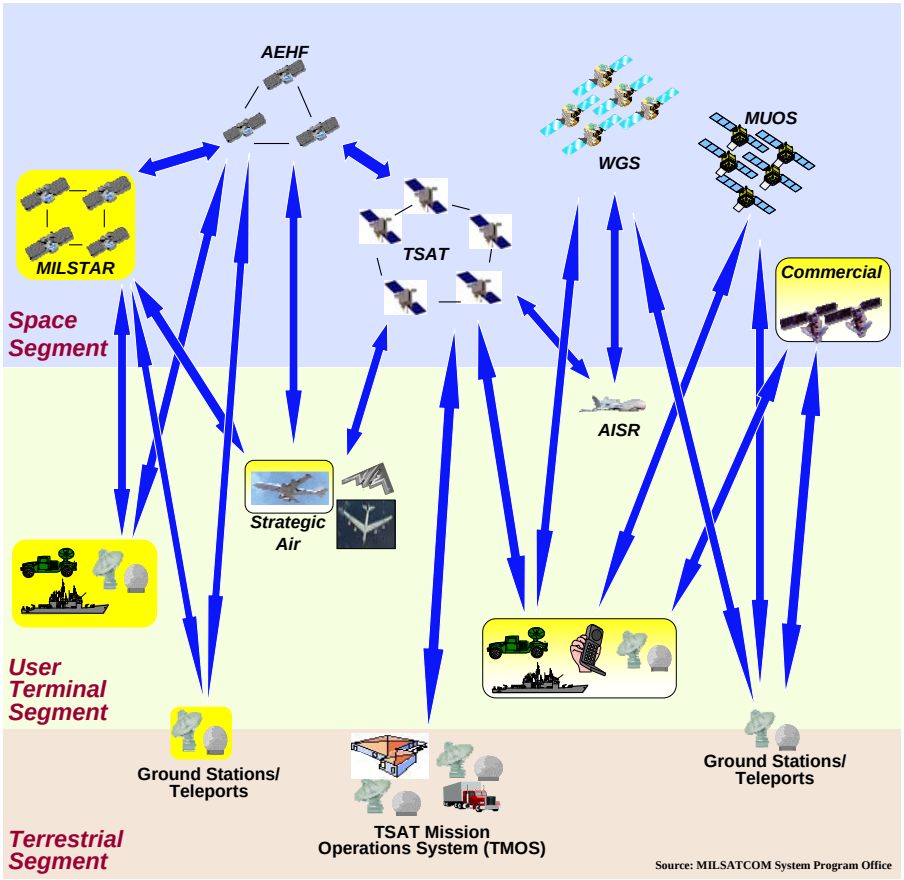
System-of-Systems Interface Synchronization in Military Satellite Communications

Motivation:

- Unsynchronized interfaces in systems of systems lead to
  - Cost and schedule growth during design and test
  - Operational Ineffectiveness
- Improved understanding and management of the interfaces could reduce cost and schedule issues and increase operational effectiveness



Key Research Questions

1) What is the cost & schedu impact of unsynchronized system-of-systems interfaces
2) What change managemen processes are in place to synchronize system-of-syste interfaces?
3) Can best practices includi lean principles improve syste of-systems interface synchronization and reduce cost and schedule growth?

"success hinges on the ability to effectively synchronize joint force combat power within the battlespace, and respond rapidly …"

General Joseph Ashey, *Satellite Communications for the Warfighter MILSATCOM Handbook*

Methods: Interviews / Document Review

Potential Benefits:

1. Improve disaster relief communic

Hurricane Katrina

2. Reduce Friendly fire incidents

3. Save money: 400% cost growth on recent satellite terminal programs mainly due to unsynchronized interfaces

Research Timeline

Begin Literature Search	Identify Candidate Programs	Begin Gathering Data	Complete Data Collection	Initial Analysis & Results	Finish Thesis
Dec 2006	Jan 2007	Mar 2007	Jul 2007	Sep 2007	Jan 2008

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